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Or

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/854,728

05/14/2001

Eldad Zeira

I-2-170.2US

8653

24374

7590

10/01/2004

VOLPE AND KOENIG, P.C.  
DEPT. ICC  
UNITED PLAZA, SUITE 1600  
30 SOUTH 17TH STREET  
PHILADELPHIA, PA 19103

EXAMINER

JAIN, RAJ K

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/854,728

Applicant(s)

ZEIRA ET AL.

Examiner

Raj Jain

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2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-4.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillinger et al (US006519240B1) hereafter referred to as Dillinger in view of Alamouti et al (US005933421A ) hereafter referred to as Alamouti.

Regarding claim(s) 1, 6 and 11, Dillinger discloses a hybrid wireless time division multiple access/code division multiple access communications system whereby the communications means between base station and mobile stations is performed and managed by at least one RNM device for allocating radio resources (see col 3 lines 41-62 and Fig 1), the wireless system comprises of:

- providing a time slot sequence of the set of time slots (see abstract, col 2 lines 50-55 and Fig 2, the TDMA frame is split into plurality of “timeslots” of equal duration and thus sequential timeslots allocated to a base station or mobile station in turn form a “sequence of timeslots”, furthermore one time slot of a TDMA frame on one modulated carrier is referred to as a physical channel.);

- ordering the new user service physical channels for each of the new user service physical channels (see col 2 lines 55-67, col 5 lines 35- col 6 lines 20, Figs 5 and 6, claim 1, the

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ordering and/or channel allocation is carried out in the base station depending upon network resources and the signal to noise ratios as determined by the RNM device); and

- assigning the new user service physical channels to the set of time slots based on the ordering and the time slot sequence (see col 5 lines 35- col 6 lines 20, Figs 5 and 6, claim 1, the channel allocation and assignment is carried out in the base station based on signal to noise ratios for each of the timeslots, if an adequate signal-to-noise ratio is found within a timeslot sequence set than a timeslot or channel is allocated to the mobile station).

Dillinger fails to disclose channel or timeslot allocation based on reception quality of the user.

Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3).

Channel allocation using received signal strength indicator (RSSI), or reception quality minimizes interference for that channel and thus lowering overall network interference (signal to noise ratio) within a given frequency band.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Alamouti within Dillinger of channel allocation based on reception quality of the user which would improve the network performance by lowering overall network interference (signal to noise ratio) within a given frequency band.

Regarding claims 2, 7 and 12, Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3), order can be performed based on signal to noise ratios (reasons for combining same as above).

Regarding claims 3, 8 and 13, Alamouti discloses desired reception quality in terms signal to interference ratio (see col 22 lines 43-64 and Table 1.3).

Regarding claims 4, 9 and 14, Alamouti discloses channel or timeslot allocation based on reception quality of the user (see col 22 lines 43-64 and Table 1.3).

Regarding claims 5, 10 and 15, Dillinger discloses a TDD hybrid wireless system, which is limited by the number of slots or physical channels per slot, and therefore the assignment of transport channels is limited as well.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

RJ  
September 23, 2004

A handwritten signature in black ink, appearing to be 'W. Chin', with a long horizontal line extending to the right.